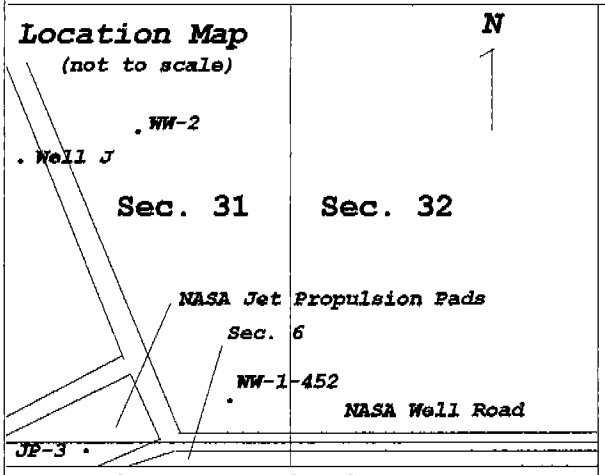
WSTF Well Borehole Lithologic/Geophysical log

Location Map

(not to scale)



Location Description

Quarter 1: NW 1/4 Section: 6

Quarter 2: NE 1/4 Township: 21 S

Quarter 3: NE 1/4 Range: 3 E

Site I.D: NASA-WSTF Location I.D: JP-3

County and State: Dona Ana County, New Mexico

Site Coordinates: N-227464.71 E-396409.23

Ground Elevation: 4433.54'

Total Depth of Borehole: 1,020'

Depth to Bedrock and Type: Not intercepted.

Depth to Groundwater from Geophysics: 433'

Drilling Method(s): Mud Rotary, reamed 17.5" to 105'; set 14" OD surface casing to 103'. Drilled 12.25" to 1,020'.

Drilling Contractor: Stewart Brothers Drilling Co.

Geophysical Survey Contractor: Southwest Geophysical, Inc.

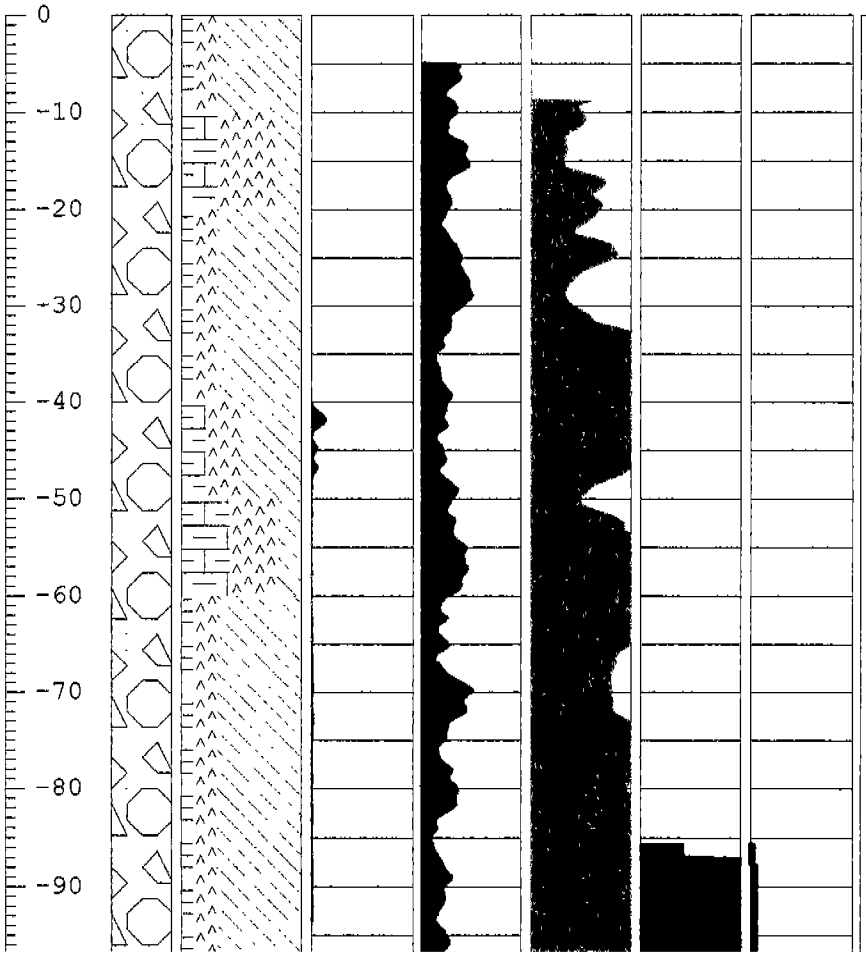
ATSC Field Representative(s): G. Giles, L. Hunnicutt and M. McClure.

Dates Drilling Started and Completed: 1/23/99 to 2/21/99.

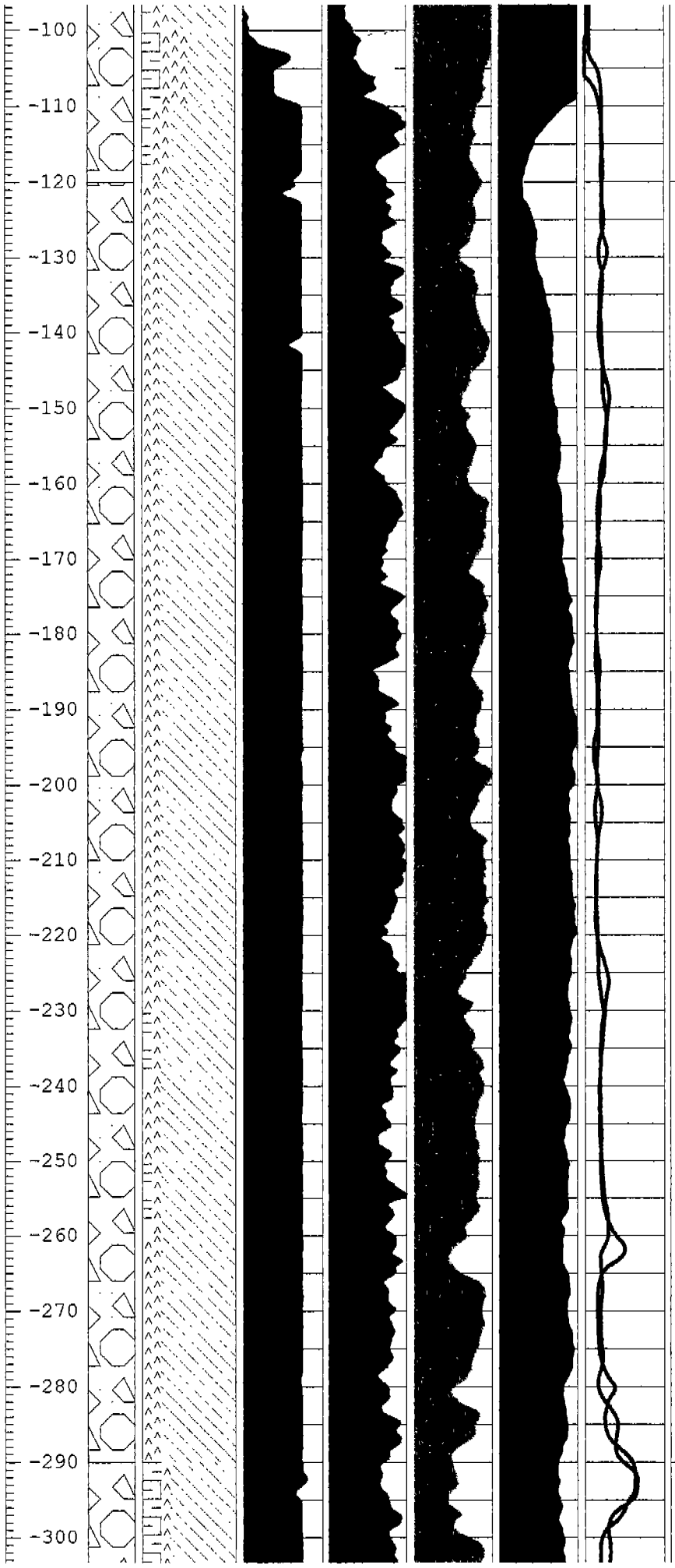
Comments: Retrofit Westbay well inside 4.5" OD stainless steel casing with four sampling zones. Lithologic samples collected every 10'.

Location Description: JP-3 is located approximately 4 miles west of the 100 Area.

Depth (Feet)	Lith-ology	Visual Percent 0 100	Sonic Porosity (Msec./ ft.) 0 150	Gamma API 50 200	Neutron API 0 50	SP (Mili-volts) -15 20	Resis-tivity (OHM-M) 64"-green 16"-red 0 100	Lithologic Description

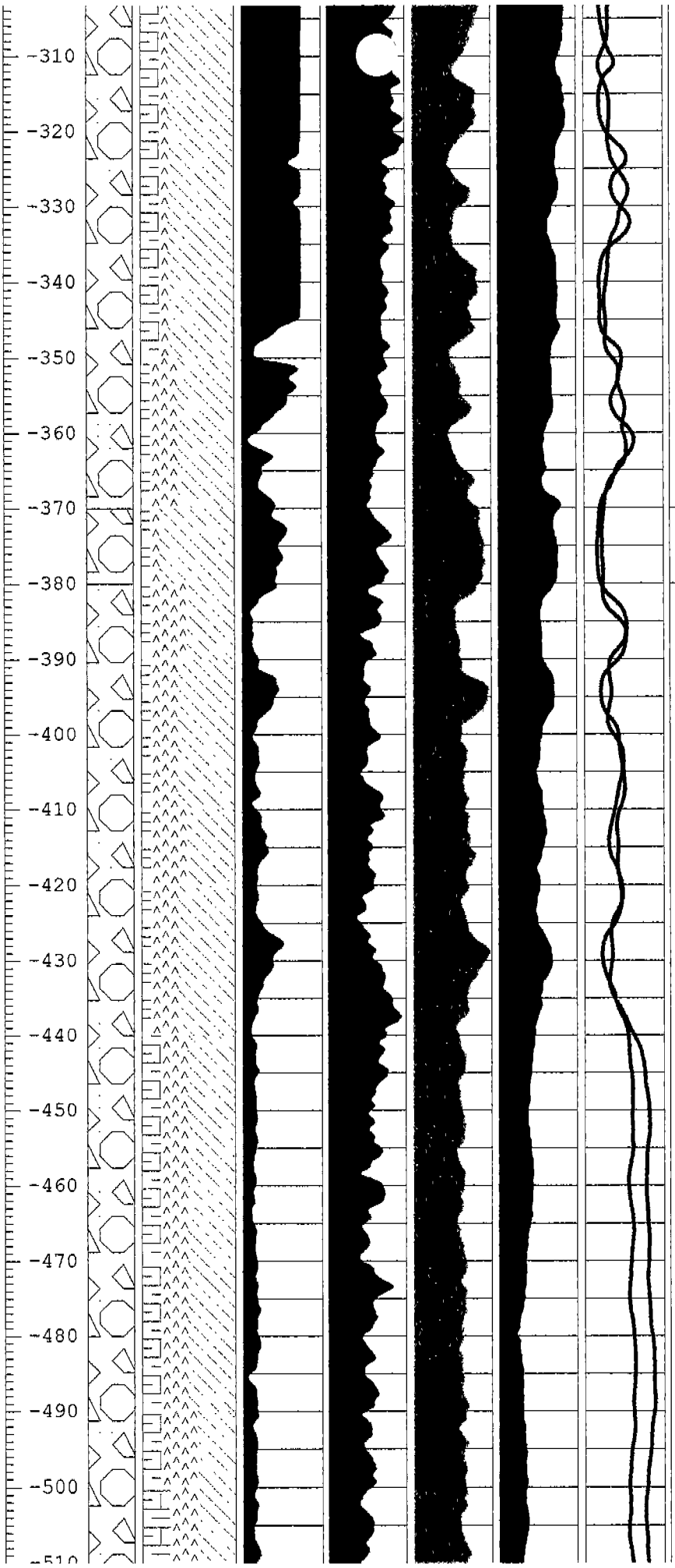


ALLUVIUM: Santa Fe Group (0-1,020 feet): The Santa Fe Group Alluvium is a poorly to moderately sorted polygenetic pebble conglomerate that consists predominantly of limestone and igneous clasts eroded from the nearby San Andres Mountains. Clasts generally comprise 30-60% of the lithologic samples. The following clast types were observed within the Santa Fe Alluvium: 1) 0-40% limestone clasts that are light gray (N6) to dark gray (N3), micritic, rounded to subangular, and display abundant hairline calcite-filled fractures, 2) 10-50% igneous clasts (both intrusive and extrusive) including moderate reddish brown (10R 4/6) to grayish red (5R 4/2) rhyolite, very light gray (N8) andesite to andesite porphyry, grayish orange (10YR 7/4) to very pale orange (10YR 8/2) rhyolite porphyry, moderate pink (5R 7/4) to grayish orange pink (10R 8/2) granite, grayish red (10R 4/2) to dark reddish brown (10R 3/4) quartzite and very light gray (N8) to medium light gray (N6) vitric lithic tuff, and 3) 20-80% dark reddish brown siltstone and clay. Siltstone and clay layers may be the result of in situ breakdown of volcanic clasts or may represent the muddy distal fan portion of alluvial fans. Note: the percent of volcanic clasts increases with depth.



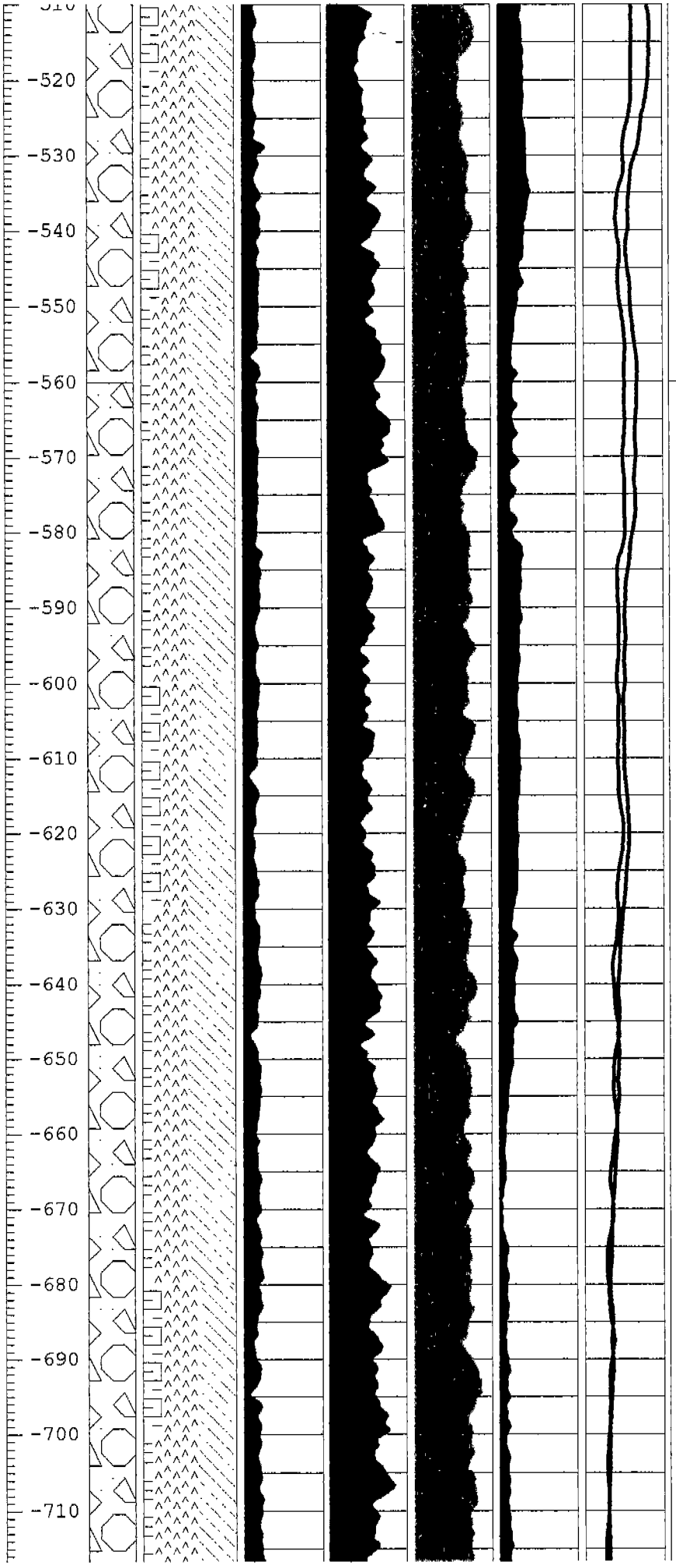
ALLUVIUM: (120-290 feet): Increase in clay to 80%.

ALLUVIUM: (290-370 feet): Increase in limestone and volcanic clasts (30%); decrease in clay (70%).

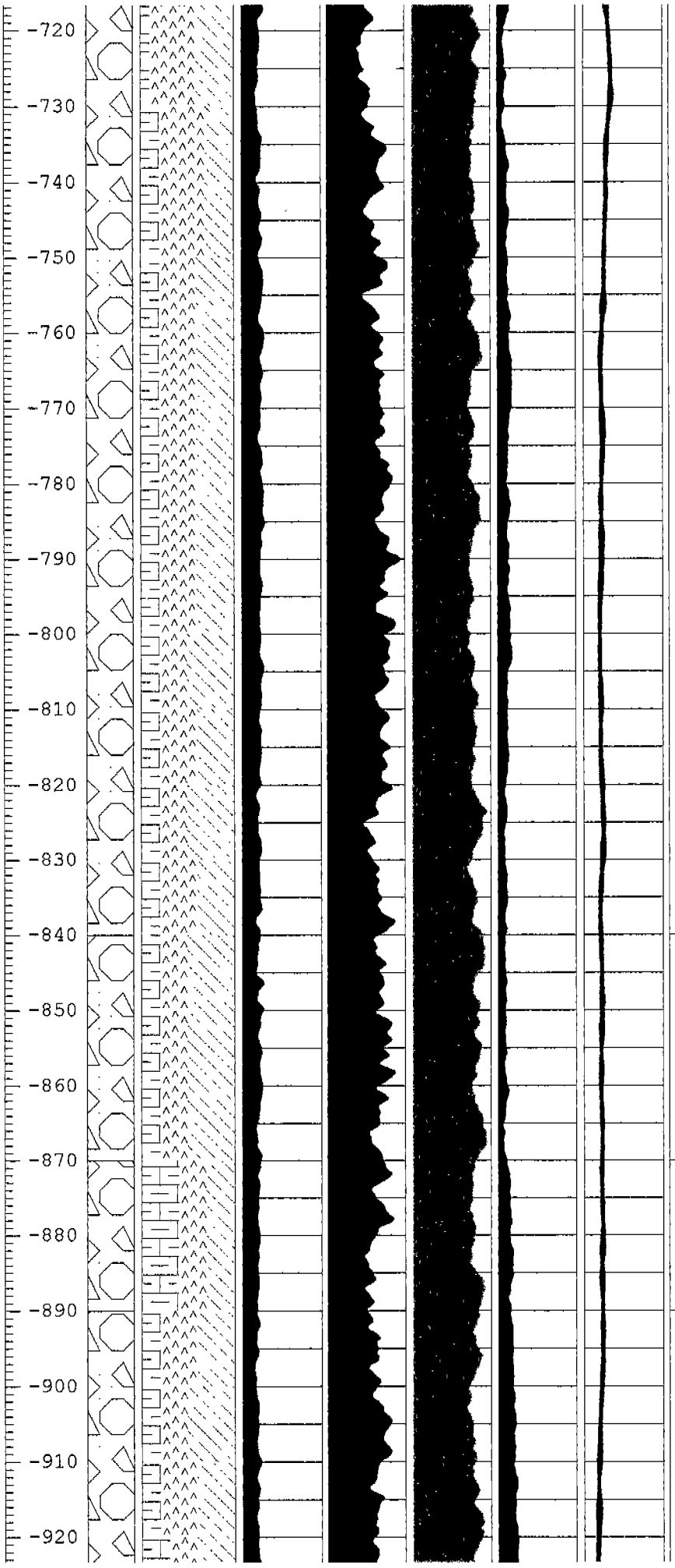


ALLUVIUM: (370-380 feet): Clay-rich horizon (80% clay).

ALLUVIUM: (380-560 feet): Increase in clasts to 30-60%. Percentage of volcanic clasts increases with depth.



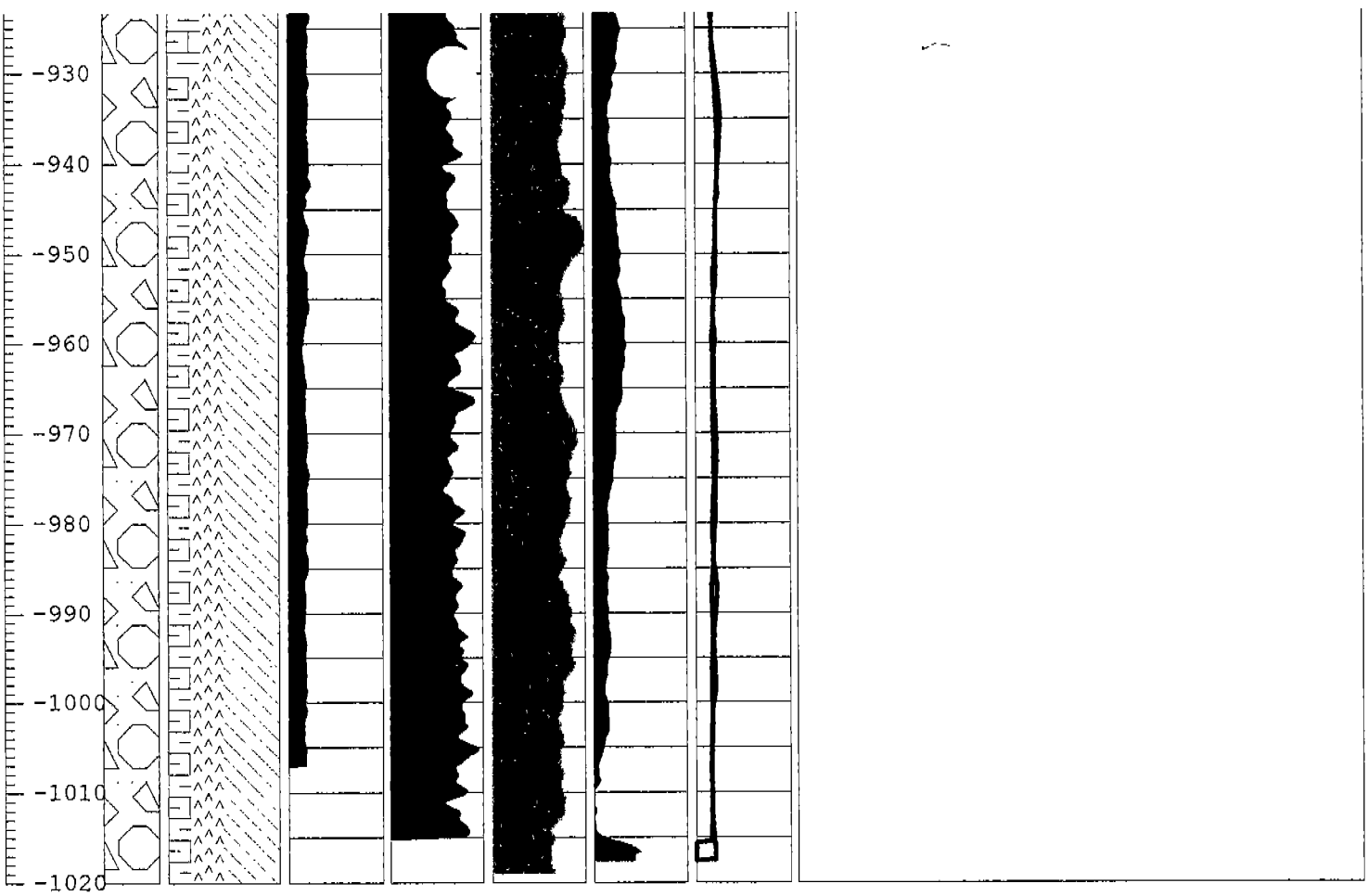
ALLUVIUM: (560-1,020 feet): Volcanic-Rich Alluvium. Clasts comprise 50-70% of the lithologic sample. Volcanic clasts increase from 30% to 40% of the lithologic sample with depth.



ALLUVIUM: (840-870 feet): Interval contains nodular clay. Clay increases to 50% of the sample.

ALLUVIUM: (870-890 feet): Clast-rich interval with 40% sedimentary and 30% volcanic clasts.

ALLUVIUM: (890-1,020 feet): Clasts comprise 50% of the lithologic sample, volcanic clasts predominant.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